AMENDMENTS

In the Specification

Please amend Table A, page 19, lines 22 through 32 as follows:

Table A

Conserva	tive S	ubstitu	tions I

SIDE CHAIN	AMINO ACID	
Aliphatic	Non-polar	G, A, P
		I, L, V
	Polar - uncharged	C, S, T, M
		N, Q
	Polar - charged	D, E
		K, R
Aromatic		H, F, W, Y
Other		N, Q, D, E

Please amend Table B, page 21, lines 1 through 19 to read:

Table B Conservative Substitutions II

	CHARACTERISTIC	AMINO ACID	
)	Non-polar (hydrophobic)		
2	A. Aliphatic:	A, L, I, V, P	
	B. Aromatic:	F, W	
·)	C. Sulfur-containing:	M	
	D. Borderline:	G	
	Uncharged-polar		
	A. Hydroxyl:	S, T, Y	
	B. Amides:	N, Q	
	C. Sulfhydryl:	C	
	D. Borderline:	G	
	Positively Charged (Basic):	K, R, H	
	Negatively Charged (Acidic):	D, E	

SIDE CHAIN

Please amend Table 1, page 37, line 25 through page 38, line 35 to read as

follows:



Nucleotide SEQ ID NO:	Representative Isolate	PossibleGene Function	Vaccination # survivors/total	Challenge # survivors/total	LD ₅₀
	wild type	-	0/10	-	<10
23	PM1B1	guaB	10/10, 10/10, 10/10	9/10, 9/10	4.3 x 10E6
11	PM1D1	dsbB	10/10, 5/10	10/10, 5/5	8.4 x 10E4